June 1, 1977

Dear Harold,

Thanks for your letter of the 27th.

I only have a single copy of the Alvarez preprint, so I have Xeroxed the front and back covers for you (along with the first page). When the published version came out, I checked it against the preprint, and my recollection is that there were no non-trivial changes.

I've also enclosed the cover page from my thesis, which shows the same contract number. I'm pretty sure that is a general contract covering all the work of the Lab.

Yes, I would be surprised if ERDA authorized Alvarez to use any money for this project. In fact, I wouldn't be surprised if they had no knowledge of this work until it was done and written up! (Of course I have no evidence on this point.)

I have no doubt that there could be a major story in how the NAA was (mis)handled. That is probably an unrelated story, I would guess.

My recollection is that I had very little to do with Alvarez' first interest in the Z film (which led to the much-maligned, thanks to CBS) "jiggle" theory. My office-mate at the time, who spent quite a bit of time talking about the JFK case with me, was one of the students who frequently talked with Alvarez over lunch or coffee; I wasn't. I recall that there was so little contact at that time that when Alvarez wanted to check the film in the 26 volumes, he went to the law library and didn't even contact me.

His interest in the head snap started after he asked me what the single most convincing piece of evidence for a conspiracy was. I told him about the head snap and (I think) loaned him Tink's book. He came up with a suggested explanation, and then Olson and Buckingham joined us in testing it experimentally.

I don't know anything about Project Jason, so I can't help you on that.

For what it's worth, the WC critics are not the first people to find Alvarez difficult, arrogant, or whatever. If you check some of the books on the Oppenheimer case and other events of that period, you will find some quite unflattering portraits. Actually, he's mellowed quite a bit in the last 10 years or so. But I do think that's all irrelevant to our major concerns.

Of course a head is not the same as a melon, and we weren't trying to simulate a head in detail. Let me try stating my understanding of what the Alvarez experiment has established: if the WC critics are to argue that the head shot could not have come from the rear, we cannot do so simply from a general principle ("A target always goes away from the gun") but must base the argument on the specific properties of the skull, the bullet, and the motion which distinguish them from the situation in the Alvarez experiment. The most persuasive criticism I recall hearing (and I think it came from Soder or Sagan at Cornell) is that the relatively rigid skull (bone) would require more forward momentum to be imparted. But that is also a hypothesis, which would have to be tested experimentally. Maybe we can agree that the Zapruder film is not simple to interpret (as people like Rep. Downing think), and that the proper scientific study to get all possible information from it has not been done.

Jon Newhall of Zodiac News (who told me he had talked with you) gave me some details about the House Committee's interaction with Loran Hall which make the Committee look far worse than what was printed in Lardner's piece - which was bad enough. A couple of people from their investigative staff talked with me for an hour when they were out here a couple of weeks ago, and did nothing to change my opinion that the Committee doesn't have its act together and is showing no signs of doing so in the near future. I saw you comments to Lardner when the last HSC report came out, and I thought they were well taken points.

Sincerely,

Paul

PLH

LBL-1053

A MEASUREMENT OF THE $K^*(890)$ MASS DIFFERENCE IN THE REACTIONS $\pi^+ d \to (p)\Lambda K^{*+}$ AND $\pi^- p \to \Lambda K^{*0}$

Paul L. Hoch
(Ph. D. Thesis - Part 3)

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